

REMARKS

Claims 1 to 26 are pending in this application, of which claims 1 and 18 are the independent claims. Favorable reconsideration and further examination are respectfully requested.

Claim 1 was rejected over Grigg (U.S. Patent 6,548,897). As shown above, Applicants have amended the claims to define the invention more clearly. In view of these amendments, withdrawal of the art rejection is respectfully requested.

Claim 1, as amended, is directed to a semiconductor structure that includes a semiconductor substrate and a compliant interconnect element disposed on a first surface of the substrate. The compliant interconnect element includes a portion that extends across and away from the first surface of the substrate to define a chamber between the portion of the compliant interconnect element and the first surface of the substrate.

The applied art is not understood to disclose or to suggest the foregoing features of claim 1. In particular, Grigg is not understood to disclose or to suggest a portion extending across and away from a first surface of a substrate to define a chamber between the portion and the first surface.

In particular, Grigg shows a ring disposed on a substrate. The ring surrounds the periphery of a contact pad and at least a portion of the surrounded contact pad is exposed through an aperture defined by the ring. The ring is configured to surround a solder ball to give lateral support to the solder ball even during the contraction and expansion of the solder ball thereby reducing solder fatigue. Grigg, however, does not disclose or suggest that any portion of the ring

extends away from or across the substrate to define a chamber. Furthermore, since the rings are intended to receive solder balls, any extension of the ring over the substrate would prevent the rings from receiving the solder balls and providing the desired lateral support.

Moreover, Grigg's ring does not define a chamber, but as Grigg describes, the ring forms an "aperture." Applicants submit that the word "chamber" is not synonymous with the word "aperture". For example, the Webster's New Collegiate Dictionary defines "aperture" as "an opening" (see attached).

Thus, as understood by Applicants, Grigg does not disclose or suggest at least a portion of a compliant interconnect element extending across and away from the first surface of the substrate to define a chamber between the portion of the compliant interconnect element and the first surface of the substrate. For at least this reason, claim 1 is believed to be in condition for allowance.

Claim 18 roughly corresponds to claim 1 and, therefore, is believed to be allowable for at least the same reasons as claim 1 noted above.

Applicants submit that the entire application is now in condition for allowance. Such action is respectfully requested at the Examiner's earliest convenience.

All correspondence should be directed to the address below. Applicants' attorney can be reached by telephone at the number shown below.

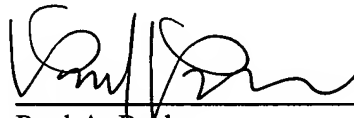
Applicant : Harry Hedler et al.
Serial No. : 10/032,941
Filed : October 31, 2001
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Attorney's Docket No.: 13292-007001/
P2002, 0836USN

No fee is believed to be due for this Amendment; however, if any fees are due, please
apply such fees to Deposit Account No. 06-1050 referencing Attorney Docket 13292-007001.

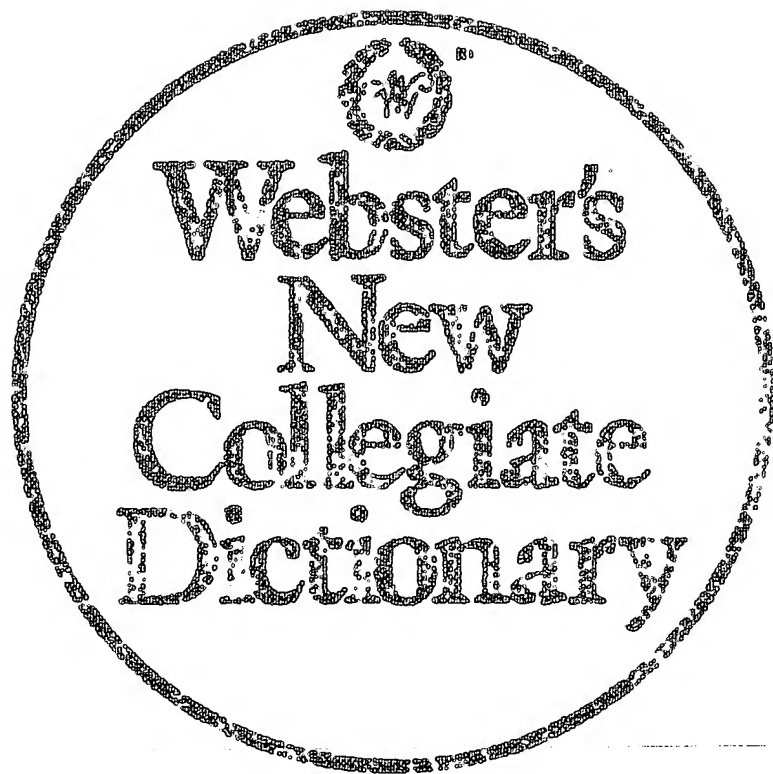
Respectfully submitted,

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a Merriam-Webster

apic-u-late /ə-ˈpɪk-yə-lət/ *adj.* [NL: *apiculus* (dim. of *l. apic-*) *apex*] : ending abruptly in a small distinct point (an ~ leaf)
apic-u-lure /ə-ˈpɪk-əl-cher-/ [prob. fr. F. fr. *l. apic* bee + *l. culture*] : the keeping of bees esp. on a large scale
apic-u-lur-al /ə-ˈpɪk-əl-cher-/ *adj.* **apic-u-lur-ist** /-ˈtɪst/ *n.* **apic-u-lur-ist** /-ˈtɪst/ *adj.*
apiece /ə-ˈpiːs/ *adv.* : for each one, INDIVIDUALLY
Apis /ə-ˈpiːs/ *n.* [L. fr. Gk. fr. Egypt. *hpy*] : a sacred bull worshiped by the ancient Egyptians
ap-lah /ə-ˈpləʃ-/ *adj.* : resembling an ape as a : given to slavish imitation b : extremely silly or affected **ap-lah-ly** *adv.* **ap-lah-ness** *n.*
ap-le-cent-al /ə-plə-sent-əl/ *adj.* : having or developing no placenta
ap-le-net-ic /ə-plə-sent-ik/ *adj.* [a- + Gk. *planasthai* to wander + (an) at PLANET] : free from or corrected for spherical aberration (an ~ lens)
ap-le-sis /ə-plə-zh(ə)-/ *n.* [NL fr. *a-* + *l. plasis*] : incomplete or faulty development of an organ or part **ap-le-tic** /ə-plə-tik/ *adj.*
ap-len-ty /ə-plent-/ *adj.* : being in plenty or abundance (money for all his needs)
ap-lent-ly *adv.* 1 : in abundance : PLENTIFULLY 2 : very much : EXTREMELY (scared ~)
ap-lite /ə-plɪt-/ [prob. fr. G. *aplit* fr. Gk. *haplos* simple + more at HAPL] : a fine-grained light-colored granite consisting almost entirely of quartz and feldspar **ap-litic** /ə-plɪt-ik/ *adj.*
ap-lomb /ə-ˈplɑːm, ˈplɑːm/ *n.* [F. lit. perpendicularity fr. MF fr. *a plomb* lit. according to the plummet] : complete and confident composure or self-assurance : POISE *syn* see CONFIDENCE *ant* shyness
ap-ne-a or **ap-noe-a** /əp-ne-ə/ *n.* [NL] 1 : transient cessation of respiration 2 : ASPHYXIA **ap-noe-ic** /-ne-ik/ *adj.*
APO *abbr* army post office
apo or **ap** *prefix* [ME fr. MF & L. MF fr. L. fr. Gk. fr. *apo* = more at OF] 1 : away from : off (apheion) 2 : detached : separate (apocarpous) 3 : formed from : related to (apomorphine)
Apoc-lyp-sis 1. Apocalypse 2. Apocrypha, apocryphal
apoc-a-lypse /ə-ˈpɒk-ə-ˈlɪps-/ *n.* [ME: revelation. Revelation fr. L. *apocalypsis* fr. Gk. *apokalypsis* fr. *apokalyptein* to uncover fr. *apo* + *kalyptein* to cover + more at HELL] 1 : a : one of the Jewish and Christian writings of 200 B.C. to A.D. 150 marked by pseudonymity, symbolic imagery, and the expectation of an imminent cosmic cataclysm in which God destroys the ruling powers of evil and raises the righteous to life in a messianic kingdom b : *apocalypse* 2 : a : something viewed as a prophetic revelation
apoc-a-lyp-tic /ə-ˈpɒk-ə-ˈlɪp-tɪk/ *also* **apoc-a-lyp-tic-al** /-tɪ-kəl/ *adj.* 1 : of, relating to, or resembling an apocalypse 2 : forecasting the ultimate destiny of the world : PROPHETIC 3 : foreboding imminent disaster or final doom : TERRIBLE 4 : wildly unrestrained in making predictions : GRANDIOSE 5 : ultimately decisive : CLAMATIC **apoc-a-lyp-tic-al-ly** /-tɪ-k(ə)-lɪ/ *adv.*
apoc-a-lyp-tic-ism /-tɪ-z-əm/ *n.* **apoc-a-lyp-tic-ism** /-tɪ-z-əm/ *n.* : apocalyptic expectation; esp. a doctrine concerning an imminent end of the world and an ensuing general resurrection and final judgment
apoc-a-lyp-tist /-tɪst/ *n.* : the writer of an apocalypse
apo-car-pous /ə-ˈpɒk-ə-r-pəs/ *adj.* : having the carpels of the gynoecium separate **apo-car-py** /ə-ˈpɒk-ə-r-pi/ *n.*
apo-chro-matic /ə-ˈpɒk-rə-mat-ik/ *adj.* [ISV] : free from chromatic and spherical aberration (an ~ lens)
apoc-o-pe /ə-ˈpɒk-ə-ˈpeɪ-/ *n.* [L. fr. Gk. *apokope* lit. cutting off fr. *apokopein* to cut off fr. *apo* + *kopein* to cut + more at CAPON] : the loss of one or more sounds or letters at the end of a word (as in sing from Old English *singan*)
apo-crime /ə-ˈpɒk-krɪm, ˈkrɪm, ˈkrɛn/ *adj.* [ISV] *apo* + Gk. *krinein* to separate + more at CERTAIN] : producing a secretion by separation of part of the cytoplasm of the secreting cells
apoc-rypha /ə-ˈpɒk-rɪ-fə/ *n.* *pl* but *sing* or *pl* in constr. [ML. fr. L. neut. *pl.* of *apocryphus* secret, not canonical, fr. Gk. *apokryphos* obscure, fr. *apokrypsin* to hide away fr. *apo* + *krypsin* to hide + more at CRYPT] 1 : writings or statements of dubious authenticity 2 : *cap* a : books included in the Septuagint and Vulgate but excluded from the Jewish and Protestant canons of the Old Testament — see BIBLE table b : early Christian writings not included in the New Testament
apoc-ry-phal /-fəl/ *adj.* 1 often *cap* : of or resembling the Apocrypha 2 : of doubtful authenticity : SPURIOUS *syn* see FICTITIOUS
apoc-ry-phal-ly /-fəl-ɪ/ *adv.* **apoc-ry-phal-ness** *n.*
apoc-yn-thi-on /ə-ˈpɒk-sɪn(t)-ə-ˈθɪn/ *n.* [NL. fr. *apo* + *Cynthia*] : APOLINE
apo-dal /ə-ˈpɒd-əl/ or **apo-dous** /ə-ˈpɒd-əs/ *adj.* [Gk. *apod-* *apous* fr. *a-* + *pod*, *pous* foot + more at FOOT] : having no feet or analogous appendages (eels are ~)
apod-ic-tic /ə-ˈpɒd-ɪk-tɪk/ *also* **apod-ic-tic** /-dɪk-tɪk/ *adj.* [L. *apodicticus* fr. Gk. *apodeiktikos* fr. *apodeiknynai* to demonstrate fr. *apo* + *deiknynai* to show + more at DICTION] : expressing or of the nature of necessary truth or absolute certainty **apod-ic-tic-ally** /-tɪ-k(ə)-lɪ/ *adv.*
apod-o-sis /ə-ˈpɒd-ə-ˈsɪs-/ *n.* *pl* *-oses* /-sɪz/ [NL. fr. Gk. fr. *apodidnai* to give back deliver fr. *apo* + *didnai* to give + more at DATE] : the main clause of a conditional sentence — compare PROTASIS
apoen-zyme /ə-ˈpɒ-ɛn-zɪm/ *n.* [ISV] : a protein that forms an active enzyme system by combination with a coenzyme and determines the specificity of this system for a substrate
apog-e-ny /ə-ˈpɒg-ə-meɪ-/ *n.* [ISV] : development of a sporophyte from a gametophyte without fertilization **apog-am-ic** /ə-ˈpɒg-ə-m-ɪk/ *adj.* **apog-a-mous** /ə-ˈpɒg-ə-m-əs/ *adj.*
apog-ee /ə-ˈpɒg-ɪ-/ *n.* [F. *apogée* fr. NL: *apogaeum* fr. Gk. *apogeeion* fr. neut. of *apogeios*, *apogeios* far from the earth fr. *apo* + *gē* earth] 1 : the point in the orbit of a satellite of the earth or of a vehicle orbiting the earth that is at the greatest distance from the center of the earth *also* : the point farthest from a planet or a satellite (as the moon) reached by an object orbiting it — compare PERIGEE 2